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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/058,722

01/28/2002

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CISCP251/4378

7898

22434

7590

06/12/2009

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EXAMINER

NGUYEN, THUONG

ART UNIT

PAPER NUMBER

2455

MAIL DATE

DELIVERY MODE

06/12/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/058,722	<b>Applicant(s)</b> LU ET AL.	
	<b>Examiner</b> Thuong (Tina) T. Nguyen	<b>Art Unit</b> 2455	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This action is in response to application 10/058,722 filed 3/25/09. Claims 1-41 are pending and represent method, computer readable medium, and system for restoring traffic during failover in a cable head end.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 22-24, 26-27, 32-35, 37 & 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Cloonan Patent No. 2002/0066110 A1 in view of Beser, Patent No. 6,331,987 B1.

Cloonan teaches the invention as claimed including method and apparatus for preventing re-ranging and re-registration of cable modems during protection switching between active and spare cable interface cards in a cable modem termination system (see abstract).

4. As to claim 34, Cloonan teaches a system comprising:  
a processor (figure 4); and  
a memory (figure 4),

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receiving subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers (page 1; paragraph 8-11; Cloonan discloses that the system of associating subscribers information such as QoS or SLAs with the priority for the traffic flows and cable modems);

prioritizing the one or more cable modems using at least one of the subscriber information or a time of receipt of the subscriber information, the prioritized cable modems indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem termination system is to be restored (page 2; paragraph 14; page 4, paragraph 32; Cloonan discloses that the system of setting the priority level of the CMTS which appropriate with the classifying, prioritizing, flow control and scheduling between cable data subscribers and the Internet); and

polling the one or more cable modems by the backup modem termination system in the order indicated by the prioritized cable modems such that communication between the one or more cable modems and the backup cable modem termination system is established in the order indicated by the prioritized cable modems, thereby enabling the transmission of messages between the one or more cable modems and the backup cable modem termination system to be restored (page 1, paragraph 8-11; page 3, paragraph 28-29; Cloonan discloses that the system of re-route the traffic between the switching fabric interface card for the active and spare cable interface cards and prioritized by the high and low traffic flow and service level agreements between the user and the service provider).

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But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and polling by the backup cable modem termination system.

However, Beser teaches method and system for bundling data in a data-over-cable system (see abstract). Beser teaches the limitation wherein receiving, prioritizing and polling by the backup cable modem termination system (figure 8-9; col 14, lines 20-45; col 16, lines 35-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cloonan in view of Beser so that the system would be able to permits resource allocation based on satisfying the needs of users allowed access to the data-over-cable system and avoid freezing up the entire system. One would be motivated to do so to permits addressing of data-packets to more than one cable modem by means of broadcast addressing.

5. As to claim 2, Cloonan and Beser teach the method as recited in claim 34, wherein at least one of the processor or the memory being further adapted for performing prioritizing and polling in response to a failover trigger from the active cable modem termination system (figure 4 & 7).

6. As to claim 3, Cloonan and Beser teach the method as recited in claim 34, further comprising:

determining that the active cable modem termination system has (page 4; paragraph 32; Cloonan discloses that the method of determined the active cable modem interface card);

wherein prioritizing and polling are performed after determining that the active cable modem termination system has failed (page 4; paragraph 32 & 33; Cloonan discloses that the method of switch on the spare cable once detected a failure of the primary cable modem interface).

7. As to claim 4, Cloonan and Beser teach the method as recited in claim 1, wherein the subscriber information identifies those modems that have ranged successfully (page 3; paragraph 31; Cloonan discloses that the method of ranging information).

8. As to claim 5, Cloonan and Beser teach the method as recited in claim 1, wherein receiving the subscriber information occurs after a specified period of time or after a call is received by the active cable modem termination system from one or more of the cable modems (page 4; paragraph 34; Cloonan discloses that the method of updating the subscriber information after period of time).

9. As to claim 6, Cloonan and Beser teach the method as recited in claim 34, further comprising:

storing the subscriber information after receiving the subscriber information (page 1; paragraph 8-11; Cloonan discloses that the method of storing subscriber information which related to the network traffic and priority such as QoS and SLAs);

wherein prioritizing the cable modems comprises prioritizing subscribers associated with the cable modems using the stored subscriber information (page 1; paragraph 8-11; Cloonan discloses that the method of prioritize the network traffic for the subscribers based on QoS or SLAs).

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10. As to claim 22, Cloonan and Beser teach the method as recited in claim 1, wherein storing the subscriber information and a time of receipt of the subscriber information by the backup cable modem termination system such that the subscriber information is associated with the time of receipt (page 4; paragraph 36; Cloonan discloses that the method of transmit the time stamp values to the spare cable interface once detected the failure of the primary cable interface).

11. As to claim 23, Cloonan and Beser teach the method as recited in claim 22, wherein the subscriber information is stored in order of the time of receipt (page 5; paragraph 41; Cloonan discloses that the method of storing the time stamp within the CMTS).

12. As to claim 24, Cloonan and Beser teach the method as recited in claim 34, further comprising: storing the subscriber information and a time of receipt of the subscriber information by the backup cable modem termination system such that the subscriber information is associated with the time of receipt (page 4; paragraph 36; Cloonan discloses that the method of transmit the time stamp values to the spare cable interface once detected the failure of the primary cable interface).

13. As to claim 26, Cloonan and Beser teach the method as recited in claim 1, further comprising: after receiving the subscriber information, sending an acknowledgement of the subscriber information to the active cable modem termination system (page 2; paragraph 25; page 3, paragraph 30; Cloonan discloses that the method of synchronizing MAC management messages with timing headers).

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14. As to claim 27, Cloonan and Beser teach the method as recited in claim 34, wherein repeatedly receiving subscriber information associated with one or more cable modems from an active cable modem termination system prior to prioritizing the cable modems (page 2; paragraph 15 & 25; Cloonan discloses that the method of setting the prioritize for the CMTS when a protection switch occurs between the two cables).

15. As to claim 35, Cloonan and Beser teach the system as recited in claim 34, wherein prioritizing the cable modems according to at least one of scheduling type identified in the subscriber information, presence of secondary subscriber identifier in the subscriber information, or time of receipt of the subscriber information by the backup cable modem termination system from the active cable modem termination system (page 4; paragraph 34; Cloonan discloses that the system of priority the cable for the subscriber based on the time stamp).

16. As to claim 37, Cloonan and Beser teach the system as recited in claim 34, wherein the subscriber information indicates a priority assigned to each of the cable modems (page 1, paragraph 8-11; Cloonan discloses that the system of established the session based on the high, low priority traffic flow and service level agreements between the subscribers and the Internet provider).

17. As to claim 39, Cloonan and Beser teach the system as recited in claim 34, wherein the subscriber information is separate from messages transmitted between the cable modems and the active cable modem termination system (figure 4).



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18. Claims 1, 32 & 33 disclose a computer readable and system claims and do not teach or define any new limitations above claims 34 and therefore are rejected for similar reasons.

19. Claim 40 disclose a system claims and do not teach or define any new limitations above claim 14 and therefore are rejected for similar reasons.

20. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan, Patent No. 2002/0066110 A1 in view of Beser, Patent No. 6,331,987 B1 and further in view of Mannette, Patent No. 6,816,500 B1.

Cloonan teaches the invention substantially as claimed including reliability enhancement for cable modem service (see abstract).

21. As to claim 41, Cloonan and Beser teach the system as recited in claim 34. But Cloonan and Beser failed to teach the claim limitation wherein the subscriber information indicates a type of traffic to be transmitted in association with each of the cable modems, wherein prioritizing the cable modems includes prioritizing the cable modems according to the type of traffic to be transmitted in association with each of the cable modems.

However, Mannette teaches apparatus, method and system for multimedia access network channel management (see abstract). Mannette teaches the limitation wherein the subscriber information indicates a type of traffic to be transmitted in association with each of the cable modems, wherein prioritizing the cable modems

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includes prioritizing the cable modems according to the type of traffic to be transmitted in association with each of the cable modems (col 2, lines 33-68; col 3, lines 23 – col 4, lines 46).

22. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Mannette so that the system would be able to transmitted information accordingly to the prioritizing cable modems. One would be motivated to do so to identified the transmission of the types of traffic accordingly such as video, voice or audio.

23. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan, Patent No. 2002/0066110 A1 in view of Beser, Patent No. 6,331,987 B1 and further in view of Sherer, Patent No. 6,434,165 B1.

Cloonan teaches the invention substantially as claimed including reliability enhancement for cable modem service (see abstract).

24. As to claim 38, Cloonan and Beser teach the system as recited in claim 34. But Cloonan and Beser failed to teach the claim limitation wherein the subscriber information indicates whether real-time data traffic is to be transmitted in association with each of the cable modems, wherein prioritizing the cable modems includes prioritizing the cable modems according to whether real-time data traffic is to be transmitted in association with each of the cable modems.

However, Sherer teaches method and system to abort data communication traffic in a communication network (see abstract). Sherer teaches the limitation wherein the subscriber information indicates whether real-time data traffic is to be transmitted in association with each of the cable modems, wherein prioritizing the cable modems includes prioritizing the cable modems according to whether real-time data traffic is to be transmitted in association with each of the cable modems (figure 9; col 10, lines 60 – col 11, lines 15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Sherer so that the system would be able to transmitted information accordingly to the prioritized the traffic based on the real time data. One would be motivated to do so to minimize impacts to communication flow of the network resources.

25. Claims 7-21, 25, 28-29 & 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan, Patent No. 2002/0066110 A1 in view of Beser, Patent No. 6,331,987 B1 and further in view of Gummalla, Patent No. 6,999,414 B2.

Cloonan teaches the invention substantially as claimed including reliability enhancement for cable modem service (see abstract).

26. As to claim 7, Cloonan and Beser teach the method as recited in claim 1. But Cloonan and Beser failed to teach the claim limitation wherein the subscriber

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information associated with each of the cable modems comprises a primary subscriber identifier that identifies the associated cable modem.

However, Gummalla teaches system and method for combining requests for data bandwidth by a data provider for transmission of data over an asynchronous communication medium (see abstract).

Gummalla teaches the limitation wherein the subscriber information associated with each of the cable modems comprises a primary subscriber identifier that identifies the associated cable modem (col 4, lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that the cable modem receives data from a user to be transferred via a cable network. One would be motivated to do so to ensure the importance of different priority identifiers to different types of data.

27. As to claim 8, Cloonan, Beser and Gummalla teach the method as recited in claim 7, wherein the subscriber information further comprises a MAC address associated with the cable modem (figure 4).

28. As to claim 9, Cloonan, Beser and Gummalla teach the method as recited in claim 7. But Cloonan and Beser failed to teach the claim limitation wherein at least a portion of the subscriber information further comprises a secondary subscriber identifier.

However, Gummalla teaches the limitation wherein at least a portion of the subscriber information further comprises a secondary subscriber identifier (figure 9).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that the system would be able to separate the subscribers. One would be motivated to do so to ensure the flexibility of the system.

29. As to claim 10, Cloonan, Beser and Gummalla teach the method as recited in claim 9. But Cloonan and Beser failed to teach the claim limitation wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time.

However, Gummalla teaches the limitation wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time (col 6, lines 33-43).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that sending different bandwidth requests to CMTS. One would be motivated to do so to differentiate different priority identifiers values for data that has arrived at CMTS at different times.

30. As to claim 11, Cloonan, Beser and Gummalla teach the method as recited in claim 9. But Cloonan and Beser failed to teach the claim limitation wherein the secondary subscriber identifier indicates whether the messages to be transmitted

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between the backup cable modem termination system and the associated cable modem include voice data or video data.

However, Gummalla teaches the limitation wherein the secondary subscriber identifier indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data (col 5, lines 6-28).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that grant the requested bandwidth to cable modem accordingly for the voice data and video data. One would be motivated to do so to provide a more flexibility for the system.

31. As to claim 12, Cloonan, Beser and Gummalla teach the method as recited in claim 9, wherein the subscriber information further comprises quality of service requirements (page 1; paragraph 8-11; Cloonan discloses that the method of associating the SLAs with the priority for the subscribers).

32. As to claim 13, Cloonan, Beser and Gummalla teach the method as recited in claim 9. But Cloonan and Beser failed to teach the claim limitation wherein at least a portion of the subscriber information further comprises a scheduling type.

However, Gummalla teaches the limitation wherein at least a portion of the subscriber information further comprises a scheduling type (col 8, lines 21-24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that

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the system schedule the bandwidth transmit based on the quality of service parameters.

One would be motivated to do so to prioritize the requested accordingly.

33. As to claim 14, Cloonan, Beser and Gummalla teach the method as recited in claim 13. But Cloonan and Beser failed to teach the claim limitation wherein the scheduling type indicates a type of real-time traffic to be transmitted.

However, Gummalla teaches the limitation wherein the scheduling type indicates a type of real-time traffic to be transmitted (col 7, lines 58-68).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that the traffic could be faster and more accurate. One would be motivated to do so to reduce the overhead of bandwidth grants via downstream communication.

34. As to claim 15, Cloonan, Beser and Gummalla teach the method as recited in claim 13, wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time (page 4; paragraph 33; Cloonan discloses that the method of loading the information into the spare cable interface once detect the failure in the system).

35. As to claim 16, Cloonan, Beser and Gummalla teach the method as recited in claim 13. But Cloonan and Beser failed to teach the claim limitation wherein the scheduling type indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data.

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However, Gummalla teaches the limitation wherein the scheduling type indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data (col 4, lines 51-64).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that the bandwidth prioritizes accordingly. One would be motivated to do so to ensure the flexibility of the system.

36. As to claim 17, Cloonan, Beser and Gummalla teach the method as recited in claim 13. But Cloonan and Beser failed to teach the claim limitation wherein the scheduling type is Unsolicited Grant Service or Unsolicited Grant with Activity Detection.

However, Gummalla teaches the limitation wherein the scheduling type is Unsolicited Grant Service or Unsolicited Grant with Activity Detection (figure 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that system would provide more variety choices. One would be motivated to do so to improve the performance of the system.

37. As to claim 18, Cloonan, Beser and Gummalla teach the method as recited in claim 13. But Cloonan and Beser failed to teach the claim limitation wherein prioritizing the subscriber information comprises searching the subscriber information associated with the cable modems for a secondary subscriber identifier; and prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier such



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that the cable modems with subscriber information having a secondary subscriber identifier have a higher priority than each of the cable modems with subscriber information not having a secondary subscriber identifier.

However, Gummalla teaches the limitation wherein prioritizing the subscriber information comprises searching the subscriber information associated with the cable modems for a secondary subscriber identifier (col 5, lines 49-63); and prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier such that the cable modems with subscriber information having a secondary subscriber identifier have a higher priority than each of the cable modems with subscriber information not having a secondary subscriber identifier (col 7, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that the bandwidth requested are schedule to be service based on priority identifier. One would be motivated to do so to schedule the service based on the various quality of service parameter.

38. As to claim 19, Cloonan, Beser and Gummalla teach the method as recited in claim 18. But Cloonan and Beser failed to teach the claim limitation wherein prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier according to the scheduling type.

However, Gummalla teaches the limitation wherein prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier according to the scheduling type (col 8, lines 1-15).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that separate the schedule of the bandwidth requested and data bust. One would be motivated to do so to utilize schedule to combine bandwidth requests from the same cable modem.

39. As to claim 20, Cloonan, Beser and Gummalla teach the method as recited in claim 19, wherein prioritizing each of the cable modems with subscriber information having a secondary identifier according to time of receipt of the subscriber information from the active cable modem termination system (page 4; paragraph 34; Cloonan discloses that the method of priority the cable for the subscriber based on the time stamp).

40. As to claim 21, Cloonan, Beser and Gummalla teach the method as recited in claim 18, wherein prioritizing each of the cable modems with subscriber information not having a secondary identifier according to time of receipt of the subscriber information from the active cable modem termination system (page 4; paragraph 35; Cloonan discloses that the method of prioritize the cable modems for the subscriber according to the time stamp).

41. As to claim 25, Cloonan and Beser teach the method as recited in claim 24. But Cloonan and Beser failed to teach the claim limitation comprising prioritizing cable modems according to the time of receipt of the corresponding subscriber information.

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However, Gummalla teaches the limitation wherein prioritizing cable modems according to the time of receipt of the corresponding subscriber information (col 8, lines 49-58).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that CMTS schedule each data bandwidth accordingly. One would be motivated to do so to differentiate the important of the timing and type of data.

42. As to claim 28, Cloonan and Beser teach the method as recited in claim 27, wherein receiving subscriber information associated with one or more cable modems from a first active cable modem termination system and receiving subscriber information associated with one or more cable modems from a second active cable modem termination system (page 2; paragraph 12; Cloonan discloses that the method of associating subscriber information and prioritize the cable modem once detected the failure in the system).

But Cloonan and Beser failed to teach the claim limitation wherein prioritizing the cable modems comprises prioritizing the cable modems associated with the first active cable modem termination system is performed separately from prioritizing the cable modems associated with the second active cable modem termination system.

However, Gummalla teaches the limitation wherein prioritizing the cable modems comprises prioritizing the cable modems associated with the first active cable modem termination system is performed separately from prioritizing the cable modems associated with the second active cable modem termination system (col 2, lines 33-63).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Gummalla so that providing the requested bandwidth and prioritize accordingly. One would be motivated to do so to structure data in order in which the bandwidth request were synchronize with the prioritize and scheduling system.

43. As to claim 29, Cloonan, Beser and Gummalla teach the method as recited in claim 28, further comprising: storing information corresponding the prioritized cable modems associated with the first active cable modem termination system separately from information corresponding to the prioritized cable modems associated with the second active cable modem termination system (page 2; paragraph 12-14; Cloonan discloses that the method of prioritize the cable modems based on the information of the subscriber such as QoS or SLAs).

44. As to claim 36, Cloonan, Beser and Gummalla teach the method as recited in claim 9, wherein the secondary subscriber identifier indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem includes high priority traffic (page 1, paragraph 8 - page 2, paragraph 14; Cloonan discloses that the method of prioritized the messages accordingly to the SLAs of the subscribers and transfer that information over the backup cable once the active cable is failure).

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45. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan, Patent No. 2002/0066110 A1 in view of Beser, Patent No. 6,331,987 B1 and further in view of Burroughs, Patent No. 2002/0144284 A1.

Cloonan teaches the invention substantially as claimed including method and apparatus for preventing re-ranging and re-registration of cable modems during protection switching between active and spare cable interface cards in a cable modem termination system (see abstract).

46. As to claim 30, Cloonan and Beser teach the method as recited in claim 34. But Cloonan and Beser failed to teach the claim limitation wherein receiving an indication that an active cable modem termination system has failed; determining an identity of the failed active cable modem termination system; and wherein receiving subscriber information associated with one or more cable modems from the active cable modem termination system comprises obtaining the subscriber information associated with the failed active cable modem termination.

However, Burroughs teaches reliability enhancement for cable modem service (see abstract). Burroughs teaches the limitation wherein receiving an indication that an active cable modem termination system has failed (page 3, paragraph 32; Burroughs discloses that the method of determined if the primary downstream channel is invalid); determining an identity of the failed active cable modem termination system (page 3, paragraph 32; Burroughs discloses that the method of determined if the primary channel is invalid by detecting the loss of sync message, within time-out period and after a specific number of attempted); and wherein receiving subscriber information associated

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with one or more cable modems from the active cable modem termination system comprises obtaining the subscriber information associated with the failed active cable modem termination system (page 3, paragraph 29 & 32; Burroughs discloses that the method of transmit to the backup channel or modem once detecting the failure of the primary channel).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Burroughs so that the backup cable would take over once detected the invalid state of the primary cable modem. One would be motivated to do so to preventing those cable modems that have their downstream service via that channel for the switching position of the active and the standby cable modem.

47. As to claim 31, Cloonan and Beser teach the method as recited in claim 1. But Cloonan and Beser failed to teach the claim limitation wherein receiving an indication that a call initiated by one of the cable modems has been terminated; and removing subscriber information associated with the one of the cable modems from memory associated with a previously failed active cable modem termination system.

However, Burroughs teaches the limitation wherein receiving an indication that a call initiated by one of the cable modems has been terminated (page 1, paragraph 4; Burroughs discloses that the method of detecting the failure of the CMTS); and removing subscriber information associated with the one of the cable modems from memory associated with a previously failed active cable modem termination system

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(page 1, paragraph 7; Burroughs discloses that the method of initializing the parameter, configuration once detect the invalid of the primary CMTS).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Beser in view of Burroughs so that the system would detect when the primary cable becomes invalid. One would be motivated to do so to prevent the delay in transmitting the messages or packets.

### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuong (Tina) T. Nguyen whose telephone number is 571-272-3864, and the fax number is 571-273-3864. The examiner can normally be reached on 9:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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